

School and Child Care Immunization Coverage and Arizona Requirements

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ARIZONA DEPARTMENT
OF HEALTH SERVICES

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Background on Immunization Requirements

- Arizona has two sets of required immunizations; one for Child Care and one for Grade School.
- These requirements are detailed in Statute 15-871 to 15-874, however A.A.C. R9-6-7 dictates how it works.
- Child Care requirements start at 2 months of age and progress up to 18 months and then are set through 5 years.
- Grade School requirements start upon enrollment in Kindergarten* and carry throughout all 12 grades.



Data Collection

- Why do we focus on 18 months to 5 years, Kindergarten, and Sixth Grade?
- The requirements become mostly set at these ages for years to come and it is a perfect time for analysis.
- This culminates in the Immunization Data Report (IDR).
- Kindergarten is required by the CDC and is reported annually in the Spring.
- These data insights help provide a foundation for planning and are often highly utilized by stakeholders and media.



Immunization Coverage and Exemptions in Students by School Year

Coverage and exemption rates have changed over the years and will vary by county

Hover over the icon to learn more about the different statuses.



Select a county

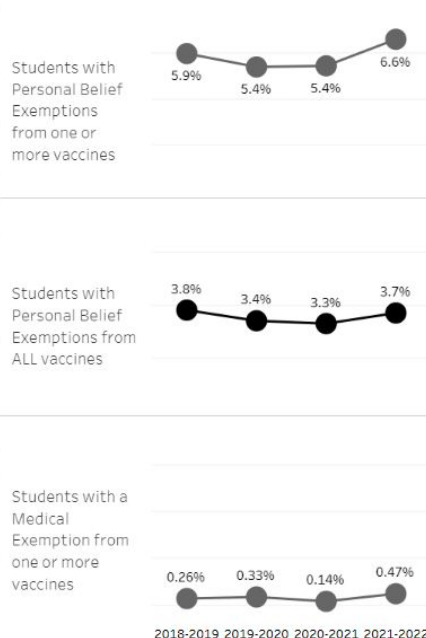
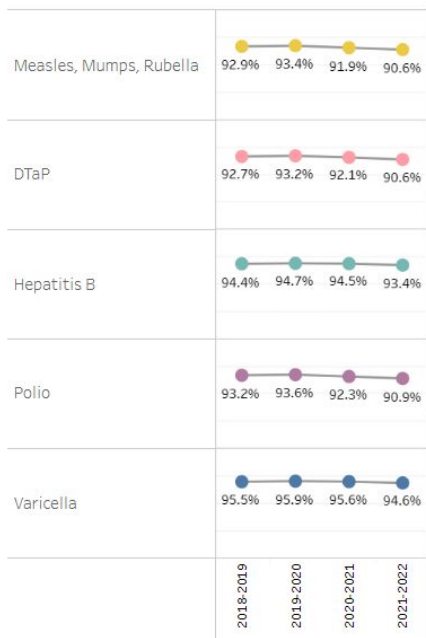
Select a grade

(All)

Kindergarten

Percent of Kindergarten Students Fully Immunized by Vaccine in Arizona

Percent of Kindergarten Students with an Exemption in Arizona



- [Search Immunization Coverage Levels by County or School \(2010 - present\)](#)
- [Arizona Immunization Coverage Status](#)

Immunization Coverage Level Summaries

2021 - 2022

- [Arizona Reporting Schools Coverage \(excel spreadsheet\)](#)
- [County Kindergarten Coverage](#)
- [Kindergarten Measles Coverage](#)
- [County 6th Grade Coverage](#)
- [6th Grade Measles Coverage](#)
- [County Child Care Coverage](#)
- [Child Care Measles Coverage](#)

2020 - 2021

2019 - 2020

2018 - 2019

Child Care Data

Vaccine	2020	2021	2022	% Change 20 to 21	% Change 21 to 22	% Change 20 to 22
Enrolled	55,320	70,403	70,690	+27.3%	+0.41%	+27.8%
DTAP	92.10%	91.66%	90.58%	-0.44%	-1.09%	-1.52%
Polio	93.60%	93.10%	92.19%	-0.5%	-0.91%	-1.41%
MMR	94.20%	93.71%	92.99%	-0.49%	-0.73%	-1.21%
HIB	93.50%	93.30%	92.42%	-0.2%	-0.88%	-1.08%
HEP A	85.80%	85.82%	84.66%	+0.02%	-1.16%	-1.14%
HEP B	93.10%	92.69%	92.18%	-0.41%	-0.51%	-0.92%
Varicella	93.80%	93.25%	92.86%	-0.55%	-0.39%	-0.94%
Exempt	5.10%	5.68%	5.72%	+0.58%	+0.04%	+0.62%
Ex. All	3.30%	3.38%	3.96%	+0.08%	+0.58%	+0.66%

Kindergarten Data

Vaccine	2020	2021	2022	% Change 20 to 21	% Change 21 to 22	% Change 20 to 22
Enrolled	71,303	80,918	78,937	+11.88%	-2.45%	+10.71%
DTAP	92.10%	90.56%	89.63%	-1.54%	-0.93%	-2.47%
Polio	92.30%	90.90%	90.29%	-1.4%	-0.61%	-2.01%
MMR	91.90%	90.57%	89.90%	-1.33%	-0.67%	-2.00%
HEP B	94.50%	93.40%	92.91%	-1.1%	-0.49%	-1.59%
Varicella	95.60%	94.58%	94.10%	-1.02%	-0.48%	-1.50%
Exempt	5.40%	6.56%	7.34%	+1.16%	+0.77%	+1.94%
Ex. All	3.30%	3.69%	4.57%	+0.39%	+0.87%	+1.27%



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Sixth Grade Data

Vaccine	2020	2021	2022	% Change 20 to 21	% Change 21 to 22	% Change 20 to 22
Enrolled	80,995	82,941	83,669	+2.4%	+0.88%	+3.30%
TDAP	86.20%	85.64%	86.15%	-0.56%	+0.51%	-0.05%
MEN	84.20%	83.52%	83.86%	-0.68%	+0.34%	-0.34%
Polio	95.60%	95.21%	95.08%	-0.39%	-0.12%	-0.52%
MMR	96.10%	95.63%	95.38%	-0.47%	-0.25%	-0.72%
HEP B	95.90%	95.84%	95.71%	-0.06%	-0.13%	-0.19%
Varicella	96.80%	96.51%	96.35%	-0.29%	-0.16%	-0.45%
Exempt	6.20%	7.38%	8.07%	+1.18%	+0.69%	+1.87%
Ex. All	2.50%	2.22%	2.9%	-0.28%	+0.72%	+0.44%

Key Takeaways

- Child Care numbers decreased significantly this year after moderate losses the year prior.
- Kindergarten decreased significantly the year prior and losses continued into 2021.
- Sixth grade has suffered losses but are not significant year to year.
- There were increased coverage numbers for adolescent vaccines, though they did not recover fully from the previous year.
- Enrollment increased significantly since 2020, however Kindergarten decreased by a modest 2.5% and enrollment hasn't fully recovered
- Exemptions continue to increase significantly, however exemptions to all vaccines are outpacing exemptions to one or more.



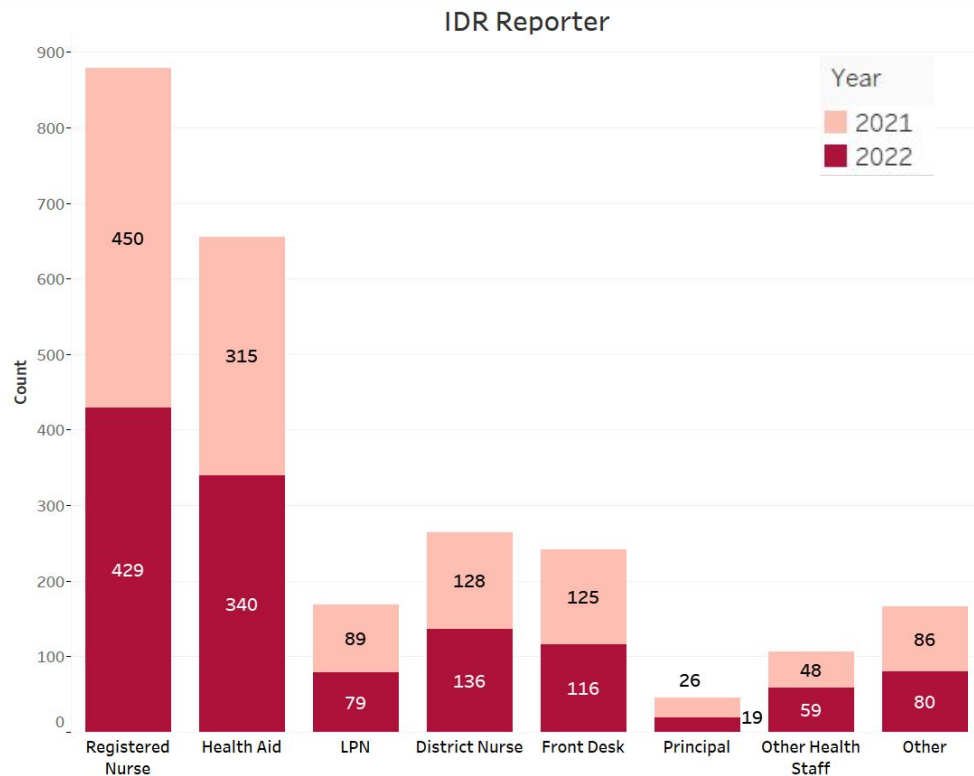
Beyond Basic Coverage

- In 2021 we added new questions that gauge school staff, education course, records system, and more.
- 2022 is the second year of data and can serve to support some early takeaways from last year.
- 2021 showed:
 - Front Desk staff has significantly lower coverage rates.
 - Potential SIS problems.
 - Geographic differences within counties.
 - Significant changes for the IEC.



School Staff

- Each of the next sections will highlight Kindergarten trends in the data.
- Registered Nurse remains the highest at just over a third of schools.
- Health Aids are close behind and growing.
- District Nurse and Front Desk are roughly 10% each.
- Records, similar, though District Nurse is much smaller. Not asked directly.



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Staff & Coverage

IDR Reporter	DTAP	Polio	Hepatitis B	MMR	Varicella	Exempt Any	Exempt All	Medical Exempt
Registered Nurse	91.46%	91.97%	94.07%	91.68%	95.39%	5.94%	3.50%	0.24%
Health Aid	90.22%	90.86%	93.48%	90.55%	94.58%	6.66%	3.74%	0.37%
LPN	91.49%	91.48%	94.43%	91.78%	95.31%	5.03%	3.29%	0.18%
District Nurse	89.71%	90.27%	93.24%	89.92%	94.55%	7.49%	4.06%	0.15%
Front Desk	83.88%	84.38%	87.67%	82.84%	88.73%	11.81%	8.47%	0.82%
Principal	83.25%	83.55%	86.07%	81.63%	88.19%	13.12%	9.08%	0.61%
Other Health Staff	91.51%	92.21%	94.62%	91.97%	95.62%	6.14%	3.39%	0.22%
Other	85.89%	85.82%	88.98%	84.55%	89.69%	11.30%	7.09%	0.33%

Combined Data shows significantly less coverage for Front Desk and Principal reporting.

IDR Reporter	Year	DTAP	Polio	Hepatitis B	MMR	Varicella	Exempt Any	Exempt All	Medical Exempt	Number of Schools
Registered Nurse	2021	91.80%	92.26%	94.19%	91.90%	95.64%	5.54%	3.09%	0.35%	450
	2022	91.08%	91.66%	93.94%	91.42%	95.11%	6.39%	3.97%	0.12%	429
Health Aid	2021	91.15%	91.54%	93.95%	91.12%	94.95%	6.45%	3.28%	0.56%	315
	2022	89.35%	90.21%	93.02%	90.01%	94.23%	6.85%	4.16%	0.19%	340
LPN	2021	91.81%	91.28%	94.74%	92.19%	95.36%	4.65%	2.60%	0.29%	89
	2022	91.17%	91.68%	94.12%	91.35%	95.26%	5.41%	3.99%	0.07%	79
District Nurse	2021	90.28%	90.71%	93.70%	90.56%	95.07%	6.53%	3.54%	0.16%	128
	2022	89.14%	89.85%	92.78%	89.29%	94.03%	8.44%	4.59%	0.14%	136
Front Desk	2021	84.14%	84.14%	87.56%	83.08%	88.56%	12.02%	7.94%	1.37%	125
	2022	83.56%	84.66%	87.79%	82.56%	88.92%	11.56%	9.07%	0.19%	116
Principal	2021	81.63%	81.63%	84.23%	79.38%	86.48%	13.69%	10.05%	0.87%	26
	2022	85.51%	86.23%	88.65%	84.78%	90.58%	12.32%	7.73%	0.24%	19
Other Health Staff	2021	91.80%	92.54%	95.17%	92.83%	95.82%	5.57%	3.20%	0.27%	48
	2022	91.30%	91.97%	94.21%	91.32%	95.46%	6.57%	3.53%	0.18%	59
Other	2021	86.53%	86.87%	89.70%	84.90%	90.35%	10.42%	6.78%	0.46%	86
	2022	85.15%	84.62%	88.14%	84.15%	88.92%	12.32%	7.44%	0.18%	80

Year by year data shows inconsistent data for Principal. Exemptions lowest with nurses.

School Information System

SIS Name	Year	DTAP	Polio	Hepatitis B	MMR	Varicella	Exempt Any	Exempt All	Medical Exempt	Number of Schools	% Total
Synergy	2021	91.51%	92.33%	94.77%	91.95%	96.04%	4.55%	2.65%	0.37%	542	43.09%
	2022	91.18%	92.15%	94.34%	91.77%	95.76%	5.48%	3.54%	0.16%	546	
PowerSchool	2021	90.02%	89.44%	92.91%	89.98%	93.93%	8.10%	3.45%	0.64%	171	14.14%
	2022	86.57%	86.39%	90.83%	86.72%	91.89%	9.21%	4.89%	0.18%	186	
Infinite Campus	2021	90.80%	91.30%	93.68%	91.04%	94.68%	7.57%	4.19%	0.15%	110	8.79%
	2022	89.69%	89.64%	92.44%	89.70%	93.58%	9.93%	5.27%	0.17%	112	
SNAP	2021	92.41%	92.41%	92.75%	91.28%	94.99%	6.66%	4.21%	0.15%	57	5.82%
	2022	91.83%	91.60%	93.26%	91.55%	94.74%	6.90%	4.72%	0.08%	59	
Tyler Schoolmaster	2021	85.76%	85.28%	88.98%	84.78%	90.68%	12.82%	7.10%	0.52%	80	4.59%
	2022	85.52%	87.05%	90.66%	84.35%	91.41%	9.52%	6.28%	0.15%	67	
ASIR/ASIIS	2021	92.04%	91.30%	94.99%	92.13%	95.58%	4.18%	2.51%	1.23%	35	2.34%
	2022	93.88%	95.26%	95.95%	94.27%	97.02%	4.13%	2.22%	0.08%	24	
All Other SIS	2021	91.42%	91.71%	93.02%	91.03%	93.64%	7.06%	4.78%	0.47%	98	8.51%
	2022	91.33%	91.37%	93.05%	91.01%	93.80%	7.36%	5.42%	0.03%	117	
No SIS	2021	89.47%	89.86%	91.50%	88.39%	92.21%	8.19%	5.22%	0.58%	174	12.71%
	2022	87.05%	89.55%	91.83%	88.05%	92.49%	8.26%	5.77%	0.23%	147	



Urbanized Area vs. Rural County

Urbanized Cou..	DTAP	Polio	MMR	HEPB	Varicella	Ex One	Ex All	Med Ex	N Schools
Phoenix	90.10%	90.69%	90.41%	93.05%	94.44%	7.34%	4.20%	0.27%	1,570
Rural Maricopa	89.86%	88.69%	89.11%	93.92%	93.60%	5.02%	2.99%	0.00%	21
Tucson	93.81%	94.09%	93.77%	96.05%	96.71%	3.37%	2.06%	0.27%	367
Rural Pima	96.17%	95.69%	94.74%	96.65%	97.61%	2.39%	1.44%	0.48%	5
Flagstaff	91.28%	91.71%	91.41%	93.55%	94.72%	7.73%	3.99%	0.18%	36
Rural Coconino	86.22%	87.44%	80.55%	92.04%	92.65%	3.22%	2.14%	0.77%	16
Yuma	95.20%	95.81%	95.67%	97.36%	97.76%	2.56%	1.71%	0.16%	77
Rural Yuma	92.66%	92.09%	92.09%	94.35%	94.35%	1.13%	0.00%	0.00%	7
Casa Grande/ Maricopa	90.24%	90.67%	90.83%	93.82%	94.72%	5.67%	3.62%	0.36%	71
Rural Pinal	90.73%	92.70%	91.52%	94.67%	95.07%	5.52%	4.34%	0.00%	14
Lake Havasu City	86.52%	88.83%	83.70%	89.09%	90.37%	10.78%	5.52%	0.26%	16
Rural Mohave	83.66%	84.31%	83.55%	88.22%	89.74%	11.54%	8.64%	0.14%	43
Prescott/ Prescott Valley	79.86%	80.79%	77.99%	85.67%	86.07%	13.98%	9.67%	0.89%	42
Rural Yavapai	75.56%	75.11%	74.66%	83.44%	85.85%	18.26%	10.38%	0.81%	35

The following data lens looks into “Urbanized Area” which is based off a 2010 Census definition. 7 of these areas were identified in Arizona. School count is important for context.

Immunization Education Course - K

	Not Part..	Yes Parti..
DTAP	89.88%	91.31%
Polio	90.20%	92.25%
HEPB	92.82%	94.58%
MMR	89.82%	91.95%
Varicella	93.98%	95.78%
Ex One	7.45%	5.17%
Ex All	4.42%	2.97%
Med Ex	0.28%	0.33%
N Schools	1,817	708

The following shows self-reported IDR data for IEC participation. The schools are able to answer Yes, No, and Unsure.

	2021		2022	
	Not Part..	Yes Parti..	Not Part..	Yes Parti..
DTAP	90.38%	91.77%	89.39%	90.79%
Polio	90.70%	92.18%	89.71%	92.32%
HEPB	93.22%	94.46%	92.43%	94.71%
MMR	90.30%	91.97%	89.33%	91.93%
Varicella	94.35%	95.70%	93.62%	95.86%
Ex One	6.96%	5.11%	7.93%	5.23%
Ex All	3.89%	2.87%	4.95%	3.08%
Med Ex	0.43%	0.44%	0.13%	0.20%
N Schools	902	365	915	343

Coverage is roughly 1 to 1.5 percent larger in the YP schools. The change in exemptions is as much as 2.7% and a relative decrease of 25 to 35%. Year to year (besides DTAP) the numbers remained the same. Sample sizes are robust and similar.

Immunization Education Course - 6

	NP	YP
TDAP	83.64%	86.37%
MEN ACWY	83.06%	85.90%
Polio	95.00%	95.96%
HEP B	95.48%	96.10%
Varicella	96.28%	97.18%
Ex One	8.22%	5.89%
Ex All	2.76%	1.85%
Med Ex	0.18%	0.24%
N Schools	1,585	582

The differences in sixth grade become more pronounced for the adolescent vaccines. While the routine vaccinations are only 0.5 to 1 percent larger the numbers are much higher in general.

	2021		2022	
	NP	YP	NP	YP
TDAP	83.46%	86.16%	83.81%	86.58%
MEN ACWY	82.91%	85.64%	83.20%	86.17%
Polio	95.07%	96.03%	94.93%	95.89%
HEP B	95.43%	96.48%	95.53%	95.70%
Varicella	96.38%	97.25%	96.18%	97.11%
Ex One	7.78%	5.76%	8.64%	6.03%
Ex All	2.37%	1.55%	3.14%	2.17%
Med Ex	0.21%	0.27%	0.16%	0.20%
N Schools	781	303	804	279

Stratified by year the numbers remain consistently higher, supporting Kindergarten. Both grades show a decrease in participating schools from year to year.

Key Findings in Data Lenses

- Front Desk Staff most robust category with lower coverage.
- There appears to be significant differences in some SIS systems as well as No SIS schools.
- Medium population counties like Yavapai, Coconino, and Mohave have significantly lower data outside of the city center.
- Immunization Education course participation has slipped relatively significantly in the past, but shows promise in coverage numbers.
- IEC Participation is very significantly tied to lower exemption rates and has shown increased resilience year to year.



Action from Data

- Targeting schools with Front Desk and other less trained staff for education and assistance.
- Compile comprehensive resources like scheduling appointments for rural and urban alike and more training modules for records review.
- Reach out to School Information System providers to make sure their software reads records correctly.
- Prompt schools to have early records reviews and requests so that people have the most time to get into the doctor.
- Promote the Immunization Education Course to administration. New approach from the perspective of an administrators priorities.



What Does the Law Say?

A.R.S. 15-872 delegates responsibility:

- A. **The director of the department ... with the superintendent ... shall develop ... standards for documentary proof.**
- B. **A pupil shall not be allowed to attend school without submitting documentary proof to the school administrator unless the pupil is exempted from immunization pursuant to section 15-873 (*D similar, upon enrollment*).**
- E. Notwithstanding ... B and D ... a pupil may be ... allowed to attend a school if the pupil has received at least one dose of each of the required immunizations prescribed ... and has established a schedule for completion ... **The parent ... of a pupil shall present to the school administrator documentary proof of the immunizations received and a schedule prepared by the pupil's physician or registered nurse practitioner or a health agency for completion of additional required immunizations.**
- F. The school administrator shall review the school immunization record for each pupil ... at least twice each school year until the pupil receives all of the required immunizations and shall suspend a pupil ... who fails to comply ... Immunizations received ... shall be entered in the pupil's school immunization record.
- G. Unless proof of an exemption from immunization pursuant to section 15-873 is provided, a pupil who is admitted or allowed to continue to attend and who fails to comply with the immunization schedule within the time intervals specified by the schedule shall be suspended from school attendance until documentary proof of the administration of another dose of each appropriate immunizing agent is provided to the school administrator.



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Arizona Administrative Code

- The Arizona Administrative code is where the statute is written in practice (authorized in 15-872 A).
- These are colloquially called rules and the code gives responsibilities for ADHS, counties, school staff, and any other relevant sub-entity.
- Most rules, including the immunizations are in Title 9, Chapter 6, Article 7 (R9-6-70x) [Child Care in ch. 3 and 5].
- Notable sections are R9-6-702 through R9-6-707



Section Summary

- R9-6-702: The immunizations, doses, and ages required.
- R9-6-703: Requirements for administering vaccines.
- R9-6-704: Documenting Immunizations on the student record (for school and child care)
- **R9-6-705: Admission and removal of students. Outbreak and vaccine shortage procedures.**
- R9-6-706: Exemptions of all types and processes surrounding them.
- R9-6-707: Immunization Data Report methodology.



Section Highlights

- 702: Shows each vaccine and the required age. Of note is that the requirements start at 2 months for Child Care and upon Kinder entry.
- 703: Upon request of a parent, a local health agency shall provide for the immunization of a child against any disease listed in R9-6-702.
- 704: Authorizes ASIIS printouts, SIS printouts, and other records similar to the ASIR.
- 705: Establishes the 15 day grace period for Child Care (applied to all schools in practice).
- 708: Authorizes counties, ADHS, administration to review records.
- 15-872 (I): A school and its employees are immune from civil liability for decisions concerning the admission ... based on a good faith implementation of the requirements of this article.



Rule Making Process & The Future

- Every 5 years there is an opportunity to rewrite or make changes to rules including immunizations.
- All changes require significant background work, however any changes outside the period require substantial research and significant need.
- This period has just passed and there were no changes made and none are expected for the foreseeable future.
- Are there other ways that rules and statute can change?
- What should we expect in the near future?



Questions?



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Strategies for Improvement

- The law helps and it is there for a reason, however there are limits in what we can do, though many staff and others are committed to improving the health of our community.
- Data and anecdotal evidence has shown there is plenty of room to be proactive and help ease many of the common barriers.
- This includes analysis from ADHS & TAPI on school needs.
- The data supports anecdotes showing what staff needs to complete their jobs, feel supported, and help alleviate issues for parents.



Early Records Review

- Promoting vaccination records review early can help start dialogue and give parents more time to get their child in.
- While there were significant appointment issues during COVID-19 there are still barriers being reported:
 - Back to school rush
 - Insurance and timing issues
 - Work schedule and conflicts
- Starting records review during open enrollment and kindergarten round up is critical. Focusing efforts on schools and parents at this time can help offset many of the issues.



Promoting Administration Buy In

- There are always differences in motivation for health departments, school staff, and school administration.
- In reality we all want the same end results: butts in seats.
- Staff regularly send out referrals, work with parents, and threaten removal from school.
- As responsibility ultimately comes down to the administrator, they may feel pressure to keep students attending.
- Rethinking the approach from “it’s the law” and “it’s the right, safe thing” to do and focusing it from a logistics/funding standpoint can resonate more.



Adopting Immunization Education Course

- Pre-pandemic coverage is down roughly 3% for Kindergarten now and 1.5 to 2% could be regained through the IEC.
- Exemptions are below pre-pandemic levels in participating schools.
- For Kindergarten, resilience has been shown year to year.
- Sixth grade, numbers are already robust, though the biggest differences were in 11 year-old vaccines.
- Adoption of this course begins at the high administration level and it requires the rethinking approach discussed previously.



Targeted Education/Intervention

- The IDR data now has several key metrics discussed here to identify opportunities.
- Just as staff need administrative support, they also need support to promote vaccine uptake.
- Beyond the usual talking points, there is the Healthy Kids AZ app, referral forms, how to guides.
- Front Desk staff, among others, have shown significantly lower coverage and are prime candidates for education on vaccine uptake as well as how to process records.
- ADHS has places in counties' budget funding for IDR site visits and can spend their money in these places.



Communication Collaboration Leveraging Data



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Please share strategies or
programs that have positively
impacted your community and
your work



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THANK YOU

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Continuing Education Credits 4/19/23



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